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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/494,954	02/01/2000	Roger A. McCurdy	TRW(TE)4170	4158
26294	7590	08/11/2006	EXAMINER	
TAROLLI, SUNDHEIM, COVELL & TUMMINO L.L.P. 1300 EAST NINTH STREET, SUITE 1700 CLEVEVLAND, OH 44114			LUM VANNUCCI, LEE SIN YEE	
			ART UNIT	PAPER NUMBER
			3611	

DATE MAILED: 08/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/494,954

Applicant(s)

MCCURDY, ROGER A.

Examiner

Ms. Lee S. Lum

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 5/23/05.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

### DETAILED ACTION


1. In view of the Request for Reinstatement for Appeal, and Supplemental Appeal Brief filed on 5/23/05, PROSECUTION IS HEREBY REOPENED. The reasons are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

  
**LESLEY D. MORRIS**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 3600**

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claims 14-16** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 14 is unclear because the language,

“A system comprising

a sensor module including an accelerometer...an acoustic sensor...an occupant protection device...and a controller...”,

seems to imply that the controller is part of the module, when in fact it is not. Comprehension may be improved by moving “and” from the line on which it appears, to the next line directly below “a sensor module”, and followed on the next line by “a controller”.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1-22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Fayyad et al 5916289 in view of Holroyd et al 5261505.

Fayyad discloses a system for protecting a vehicle occupant comprising

Plurality of crash sensors/accelerometers, including at least sensors 16 and 24,

Including accelerometer 24 (c2, In 37-38) as a front crash zone sensor located at a forward part of the vehicle (fig 1),

Including side crash zone sensors 20,22 located at the sides of the vehicle (fig 1),

Safing sensors 16 (laterally-placed), and unidentified longitudinally-placed sensor, as portions of circuits 14 and 18 - c2, In 24-26,

wherein these sensors provide a signal having a characteristic (i.e., acceleration) indicative of the crash event,

Occupant protection device/airbags 28, 30, 32, and,

Controller 12 controlling actuation of the protection device in response to separate signals from the sensors (c2, In 37-56) including

Controlling actuation of the device in response to both safing signal and the signal from the front crash sensor (c2, In 37-46), or

Both safing signal and (at least one) side crash signal (c2, In 46-56).

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The reference does not disclose the safing sensor as acoustic, omni-directional and ultrasonic, while Holroyd shows this sensor 32, including elements 34 and 36, in fig 3, and c3, ln 61 to c4, ln 3, in which this sensor is

*Acoustic* because "the waveguide 34...transmits the stress wave signals to transducer 36 [, in which] the waves are produced by the acoustic emission phenomena when deformed. The transducer 36 detects the stress wave activity propagating in or along the waveguide."

*Omni-directional* because the transducer 36 detects "stress wave activity propagating in/along the waveguide 34" (c3, ln 67-68), the latter formed in various directions, as indicated in fig 3, and,

*Ultrasonic* because the sensor detects the "stress waves within the frequency range of 40KHz to 1 MHz" (c2, ln 38-42), this range extending past the lower limit of 20 KHz, or the definition of "ultrasound".

It would have been obvious to one with ordinary skill in the art at the time the invention was made to include the safing sensor be acoustic, omni-directional and ultrasonic, as shown in Holroyd, to detect sound waves through vehicular components *during deceleration, before impact* (c1, ln 36-38), and so enabling quicker detection of an imminent crash event, and thus, quicker actuation of occupant safety devices.

The references also disclose a method for controlling actuation of an occupant protection device, the steps derived from the structure/means provided above.

3. The prior art made of record, and not relied upon, is considered pertinent to the disclosure: Willerton et al 6226578, Gray et al 5620202, Heintz et al 4164263.

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4. RESPONSE TO REMARKS

As explained above, upon reconsideration, Examiner has provided new rejections.

**Again, she sincerely apologizes for the inconvenience.**


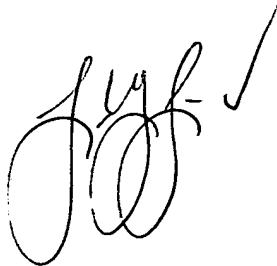
Fayyad discloses the majority of the recited elements, while Holroyd teaches an acoustic/ultrasonic sensor, as a safing crash sensor. Including an acoustic sensor as the safing sensor permits faster detection of an imminent collision, as discussed above, thus providing quicker actuation of occupant safety devices.

5. Communication with USPTO/Examiner

Any inquiry concerning this communication, or others, should be directed to Ms. Lum at 571 272-6649, M-F, 9-5. If attempts to reach the examiner are unsuccessful, her supervisor, Ms. Lesley Morris is at 571 272-6651. Our fax number is 571 273 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for unpublished applications: private PAIR only, for published applications: private or public PAIR. For more information re PAIR: <http://pair-direct.uspto.gov>. Questions re private PAIR: contact the Electronic Business Center (EBC) at 866 217-9197.

Ms. Lee S. Lum  
Examiner  
8/1/06



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